

CrossPoint 300 Series

Wideband Matrix Switchers with ADSP™ for RGB and Stereo Audio



COMMON FEATURES

- **Inputs:** Video on female BNC connectors; audio on captive screw connectors
- **Outputs:** Video on female BNC connectors; audio on captive screw connectors
- **300 MHz (-3 dB) RGB video bandwidth, fully loaded** — Designed for routing most common high resolution computer-video rates without signal degradation. The CrossPoint 300 Series provides a minimum 300 MHz (-3 dB) of RGB video bandwidth at full performance capability when one input drives all outputs.
- **Extremely flat response to 130 MHz** — Switcher performance is further enhanced by the extremely flat response in the critical portion of the bandwidth curve, between 0 and 130 MHz.
- **ADSP™ - Advanced Digital Sync Processing technology** — An exclusive, all digital process that regenerates the sync signal waveform and restores incoming sync level to 5.0 V p-p specifications. This ensures a stable image for improved signal compatibility with any LCD, DLP, plasma, or other digital display device.
- **Compatible with RGBHV, RGBS, RGSB, HDTV, component video, S-video, composite video, and unbalanced/balanced stereo audio** — CrossPoint 300 Series models switch separate horizontal and vertical sync to ensure proper sync polarity, providing a more stable image.
- **Buffered I/O** — Each input and output is individually buffered to provide maximum performance and virtually no crosstalk or signal interference between channels.
- **HVA models switch both balanced and unbalanced stereo audio**
- **Audio input gain and attenuation** — Allows users to set the level of gain or attenuation for each audio input channel, eliminating noticeable volume differences when switching between sources.
- **Audio output volume adjustment and muting** — Can be set dynamically for each channel through the front panel or serial control, eliminating the need for an audio preamplifier in many system designs.
- **Audio breakaway** — Provides the capability to break an audio signal away from its corresponding video signal, allowing the audio and video signals from one source to be switched to different destinations.
- **QS-FPC™ - QuickSwitch Front Panel Controller** — Provides a discrete button for each input and output, allowing for simple, intuitive operation.
- **Front panel security lockout** — Prevents unauthorized use when the matrix switcher is installed in an unsecured environment where easy access is not desirable. In lockout mode, a special button combination is required to operate the front panel.
- **Front panel I/O buttons may be easily labeled with any Brother® P-touch labeler or included Extron label software** — Each input can be labeled with name, alphanumeric characters, or color bitmaps for easy and intuitive selection of inputs and outputs.
- **View I/O mode** — Easily view which inputs and outputs are actively connected.
- **Global presets** — Frequently used I/O configurations may be saved and recalled either from the front panel or serial control. This time-saving feature allows you to set up I/O configurations and store them in memory for future use.
- **RS-232 and RS-422 serial control port** — Using serial commands, the CrossPoint 300 Series can be controlled and configured via the included Windows-based control software, or integrated into third-party control systems. Extron products use the SIS™ - Simple Instruction Set command protocol, a set of basic ASCII code commands that allow for quick and easy programming. The RS-232 and RS-422 port also makes it easy to install firmware updates.
- **Control software** — Provides a graphical, drag-and-drop interface for I/O configuration and other customization functions via RS-232 and RS-422 remote control. This software also offers an emulation mode for configuration of an offsite matrix switcher; the I/O configuration may be saved for future downloading to the matrix switcher.
- **Optional remote control** — Optional X/Y control panels, bus control panels, and keypads provide the flexibility to control a CrossPoint 300 Series matrix switcher from a remote location.
- **Rack-mountable metal enclosure** — All CrossPoint 300 Series matrix switchers are housed in 19-inch wide metal enclosures.
- **Internal international power supply** — The 100-240VAC, 50/60 Hz, universal power supply provides worldwide power compatibility.



Optional MKP 3000
X-Y Control Panel

DESCRIPTION

The Extron **CrossPoint 300 Series** of Wideband RGBHV Matrix Switchers provide a convenient single box solution for most common high resolution video and audio routing system designs. A total of 15 models are available in eight I/O sizes, ranging from 4x2 to 16x16. They are ideal for general use in a wide range of signal distribution applications, including corporate boardrooms and training facilities, college and university settings, health care, and other high-utilization facilities where reliable switching is required.

CrossPoint 300 Series models are available in two versions: "HV" for switching RGBHV signals without audio, and "HVA" for switching RGBHV and balanced or unbalanced stereo audio.

Video Features

All CrossPoint 300 Series models feature a minimum of 300 MHz (-3 dB) RGB video bandwidth, fully loaded. This is a worst case specification, when one input drives all outputs. In normal usage, video bandwidth generally exceeds the 300 MHz (-3 dB) rating. Switcher performance is further enhanced by a remarkably flat response in the critical portion of bandwidth curve, between 0 and 130 MHz. This underscores the switcher's consistent performance, with minimal signal loss or gain, across the frequency spectrum.

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CrossPoint 300 Series

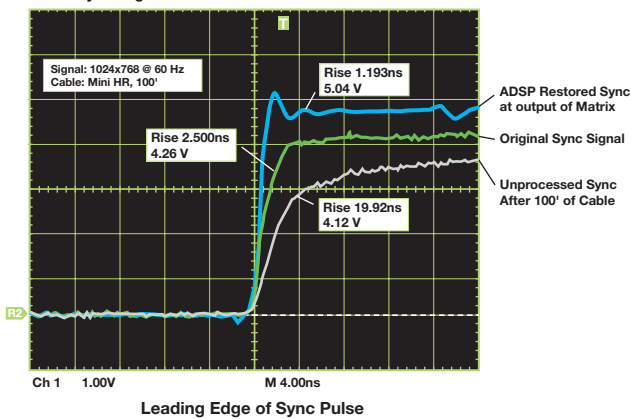
DESCRIPTION (CONTINUED)

For optimum signal reproduction, each input and output is individually isolated and buffered. Any input can be switched to any one or all outputs with virtually no crosstalk or signal interference between channels. In addition to RGBHV signals, CrossPoint 300 Series matrix switchers are designed to accommodate the widest range of signal routing requirements, and are fully compatible with RGBS, RGsB, HDTV, component video, S-video, and composite video signals as well. To ensure full confidence when switching between varying computer-video sources, all CrossPoint 300 Series matrix switchers include Extron's exclusive ADSP™ - Advanced Digital Sync Processing.

ADSP

Extron's ADSP is an all-digital process that corrects and restores the sync signal as it passes through the switcher. First, ADSP restores sync to TTL levels, 5.0 V p-p, ensuring that the projector or monitor accurately locks to sync and displays a stable image. Second, ADSP corrects the signal waveform to create sharp rising and falling edges, ensuring a more stable and reliable image in systems with different signal sources or cable lengths. Whether signal losses and distortion are caused by long cable runs, variations in display graphic card outputs, or low sync levels found in many laptop computers, ADSP significantly reduces sync related problems, improving signal compatibility with many digital display devices.

ADSP Sync Signal Resolution



Audio Features

All CrossPoint 300 Series HVA audio-capable models feature a full range of audio input and output adjustments. Audio input gain and attenuation may be adjusted for each channel individually, eliminating the noticeable and sometimes jarring volume differences when switching between sources.

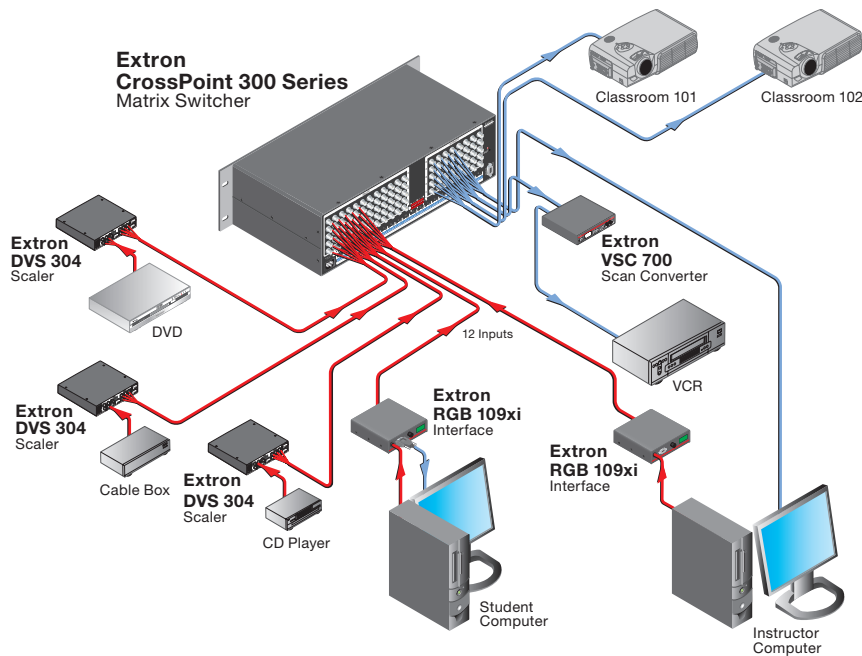
Audio output volume control is also provided for each individual output. Signal levels may be adjusted from the front control panel or through serial control, providing a simple way to set audio volume levels without an audio preamplifier.

In addition, audio breakaway provides the capability to separate the audio signal from its corresponding video signal, allowing the audio channels to be operated as a separate matrix switcher within the system.

Control Options

For ease-of-use in a variety of environments, all CrossPoint 300 Series matrix switchers are equipped with a full range of control options, including front panel control, RS-232/RS-422 serial control, and several wired remote control panel options.

The QS-FPC™ - QuickSwitch Front Panel Controller allows simple, touch-of-a-button selection of inputs and outputs directly from the front panel of the CrossPoint 300 switcher. The CrossPoint 300 Series can also be controlled using optional Extron control panels and keypads.



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CrossPoint 300 Series

CrossPoint 300 42 HVA

4x2 Wideband Matrix Switcher with ADSP™ for RGB and Stereo Audio

UNIQUE FEATURES

- 1U, full rack width



MODEL

VERSION DESCRIPTION

PART

CrossPoint 300 42 HVA

4x2 RGBHV & Stereo Audio.....

60-504-01

CrossPoint 300 84

8x4 Wideband Matrix Switchers with ADSP™ for RGB and Stereo Audio

UNIQUE FEATURES

- 3U, full rack width



CrossPoint 300 84 HVA

MODEL

VERSION DESCRIPTION

PART

CrossPoint 300 84 HV

8x4 RGBHV.....

60-219-15

CrossPoint 300 84 HVA

8x4 RGBHV & Stereo Audio.....

60-219-16

CrossPoint 300 88

8x8 Wideband Matrix Switchers with ADSP™ for RGB and Stereo Audio

UNIQUE FEATURES

- 3U, full rack width



CrossPoint 300 88 HVA

MODEL

VERSION DESCRIPTION

PART

CrossPoint 300 88 HV

8x8 RGBHV.....

60-325-15

CrossPoint 300 88 HVA

8x8 RGBHV & Stereo Audio.....

60-325-16

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CrossPoint 300 Series

CrossPoint 300 816

8x16 Wideband Matrix Switchers with ADSP™
for RGB and Stereo Audio

UNIQUE FEATURES

- 6U, full rack width



CrossPoint 300 816 HVA

MODEL	VERSION DESCRIPTION	PART #
CrossPoint 300 816 HV	8x16 RGBHV	60-396-15
CrossPoint 300 816 HVA	8x16 RGBHV & Stereo Audio	60-396-16

CrossPoint 300 124

12x4 Wideband Matrix Switchers with ADSP™
for RGB and Stereo Audio

UNIQUE FEATURES

- 3U, full rack width



CrossPoint 300 124 HVA

MODEL	VERSION DESCRIPTION	PART #
CrossPoint 300 124 HV	12x4 RGBHV	60-326-15
CrossPoint 300 124 HVA	12x4 RGBHV & Stereo Audio	60-326-16

CrossPoint 300 128

12x8 Wideband Matrix Switchers with ADSP™
for RGB and Stereo Audio

UNIQUE FEATURES

- 3U, full rack width



CrossPoint 300 128 HVA

MODEL	VERSION DESCRIPTION	PART #
CrossPoint 300 128 HV	12x8 RGBHV	60-220-15
CrossPoint 300 128 HVA	12x8 RGBHV & Stereo Audio	60-220-16

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CrossPoint 300 Series

CrossPoint 300 1212 **NEW**

12x12 Wideband Matrix Switcher with ADSP™
for RGB and Stereo Audio

UNIQUE FEATURES

- 6U, full rack width



CrossPoint 300 1212 HVA

MODEL	VERSION DESCRIPTION	PART #
CrossPoint 300 1212 HV	12x12 RGBHV	60-851-15
CrossPoint 300 1212 HVA	12x12 RGBHV & Stereo Audio	60-851-16

CrossPoint 300 168

16x8 Wideband Matrix Switchers with ADSP™
for RGB and Stereo Audio

UNIQUE FEATURES

- 6U, full rack width



CrossPoint 300 168 HVA

MODEL	VERSION DESCRIPTION	PART #
CrossPoint 300 168 HV	16x8 RGBHV	60-330-15
CrossPoint 300 168 HVA	16x8 RGBHV & Stereo Audio	60-330-16

CrossPoint 300 1616

16x16 Wideband Matrix Switchers with ADSP™
for RGB and Stereo Audio

UNIQUE FEATURES

- 6U, full rack width



CrossPoint 300 1616 HVA

MODEL	VERSION DESCRIPTION	PART #
CrossPoint 300 1616 HV	16x16 RGBHV	60-242-15
CrossPoint 300 1616 HVA	16x16 RGBHV & Stereo Audio	60-242-16

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CrossPoint 300 Series

SPECIFICATIONS

VIDEO

Routing

CrossPoint 300 42 HVA	4 x 2 matrix
84 Series	8 x 4 matrix
88 Series	8 x 8 matrix
816 Series	8 x 16 matrix
124 Series	12 x 4 matrix
128 Series	12 x 8 matrix
1212 Series	12 x 12 matrix
168 Series	16 x 8 matrix
1616 Series	16 x 16 matrix
Gain	Unity
Bandwidth	300 MHz (-3 dB), fully loaded
	0 - 10 MHz: no more than +0.1 dB to -0.1 dB
	0 - 130 MHz: no more than +0.8 dB to -0.8 dB
Crosstalk	-80 dB @ 1 MHz, -55 dB @ 10 MHz, -45 dB @ 30 MHz, -37 dB @ 100 MHz
Switching speed	200 ns (max.)

VIDEO INPUT

Number / Signal type	4, 8, 12, or 16 RGBHV, RGBS, RGsB, RsGsBs, HDTV, component video, S-video, composite video
Connectors	
CrossPoint 300 42 HVA	4 x 5 BNC female
84/88/816 Series	8 x 5 BNC female
124/128/1212 Series	12 x 5 BNC female
168/1616 Series	16 x 5 BNC female
Nominal level	1 Vp-p for Y of component video and S-video, and for composite video
	0.7 Vp-p for RGB and for R-Y and B-Y of component video
	0.3 Vp-p for C of S-video
Minimum / Maximum levels ..	Analog: 0.5 V to 2.0 Vp-p with no offset
Impedance	75 ohms
Return loss	<-30 dB @ 5 MHz
DC offset (max. allowable)	1.5 V

VIDEO OUTPUT

Number / Signal type	2, 4, 8, 12, or 16 RGBHV, RGBS, RGsB, RsGsBs, HDTV, component video, S-video, composite video
Connectors	
CrossPoint 300 42 HVA	2 x 5 BNC female
84/124 Series	4 x 5 BNC female
88/128/168 Series	8 x 5 BNC female
1212 Series	12 x 5 BNC female
816/1616 Series	16 x 5 BNC female
Nominal level	1 Vp-p for Y of component video and S-video, and for composite video
	0.7 Vp-p for RGB and for R-Y and B-Y of component video
	0.3 Vp-p for C of S-video
Minimum / Maximum levels ..	Analog: 0 V to 2.0 Vp-p (follows input)
Impedance	75 ohms
Return loss	-30 dB @ 5 MHz
DC offset	±10 mV with input at 0 offset

SYNC

Input type	RGBHV, RGBS, RGsB, RsGsBs
Output type	RGBHV, RGBS, RGsB, RsGsBs (follows input)
Input level	0.5 V to 5.0 Vp-p, 4.0 Vp-p normal
Output level	AGC to TTL: 4.0 V to 5.0 Vp-p, unterminated
Input impedance	Inputs 1 to 4: 75 or 510 ohms, switchable
	Inputs 5 to 8, 12, or 16: 510 ohms
Output impedance	75 ohms
Max. input voltage	5.0 Vp-p
Max. propagation delay	30 ns
Max. Rise / Fall time	4 ns
Polarity	Positive or negative (follows input)

AUDIO (AUDIO MODELS ONLY)

Routing	
CrossPoint 300 42 HVA	4 x 2 stereo matrix
84 Series	8 x 4 stereo matrix
88 Series	8 x 8 stereo matrix
816 Series	8 x 16 stereo matrix
124 Series	12 x 4 stereo matrix
128 Series	12 x 8 stereo matrix
1212 Series	12 x 12 stereo matrix
168 Series	16 x 8 stereo matrix
1616 Series	16 x 16 stereo matrix
Gain	Unbalanced output: -6 dB; balanced output 0 dB
Frequency response	20 Hz to 20 kHz, ±0.05 dB
THD + Noise	0.03% @ 1 kHz at nominal level
S/N	>90 dB, balanced, at maximum output (21 dBu), unweighted
Crosstalk	<-80 dB @ 1 kHz, fully loaded

Stereo channel separation

CrossPoint 300 42 HVA	>90 dB @ 1 kHz
All other models	>80 dB @ 1 kHz
CMRR	>75 dB @ 20 Hz to 20 kHz

AUDIO INPUT (AUDIO MODELS ONLY)

Number / Signal type	4, 8, 12, or 16 stereo, balanced/unbalanced
Connectors	(4, 8, 12, or 16) 3.5 mm captive screw connectors, 5 pole
Impedance	>10k ohm, balanced/unbalanced, DC coupled
Nominal level	0 dBu (775 mV)
Maximum level	+19.5 dBu, (balanced or unbalanced) at 0.01% THD+N
Input gain adjustment	-18 dB to +24 dB, adjustable per input by RS-232/422, Ethernet, or front panel

NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV ≈ 2 dBu

AUDIO OUTPUT (AUDIO MODELS ONLY)

Number / Signal type	2, 4, 8, 12, or 16 stereo, balanced/unbalanced
Connectors	(2, 4, 8, 12, or 16) 3.5 mm captive screw connectors, 5 pole
Impedance	50 ohms unbalanced, 100 ohms balanced
Gain error	±0.1 dB channel to channel
Maximum level (Hi-Z)	>+21 dBu, balanced or unbalanced at 0.10%THD+N
Maximum level (600 ohm)	>+15 dBm, balanced or unbalanced at 0.10%THD+N
Output volume range	
(all models except 42 HVA)	0 to 64 (-75.8 dB to 0 dB) in 1 dB increments from steps 1 to 64, 12 dB increment from step 0 to 1; default = 64 = 0dB

CONTROL / REMOTE – SWITCHER

Serial control port

CrossPoint 300 42 HVA	1 RS-232, 9-pin female D connector
All other models	1 RS-232 or RS-422, 9-pin female D connector
Baud rate and protocol	9600 (default), 19200, 38400, 115200 baud (adjustable); 8 data bits, 1 stop bit, no parity

Serial control

pin configurations	RS-232: 2 = TX, 3 = RX, 5 = GND RS-422: 2 = TX-, 3 = RX-, 5 = GND, 7 = RX+, 8 = TX+
Program control	Extron's control/configuration program for Windows® Extron's Simple Instruction Set (SIS™)

GENERAL

Power	100 VAC to 240 VAC, 50/60 Hz, internal, universal
	84/88/124/128 Series: 30 watts
	816/1212/168/1616 Series: 36 watts
	CrossPoint 300 42 HVA: 40 watts
Temperature / Humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing
Rack mount	Yes
Enclosure type	Metal
Enclosure dimensions	
CrossPoint 300 42 HVA	1.75" H x 17.5" W x 9.5" D (1U high, full rack wide) (4.4 cm H x 44.5 cm W x 24.1 cm D)
84/88/124/128 Series	5.25" H x 17.0" W x 9.4" D (3U high, full rack wide) 13.3 cm H x 43.2 cm W x 23.9 cm D
816/1212/168/1616 Series	10.5" H x 17.0" W x 9.7" D (6U high, full rack wide) 26.7 cm H x 43.2 cm W x 24.6 cm D (Depth excludes connectors. Width excludes rack ears.)
Product weight	
CrossPoint 300 42 HVA	4.9 lbs (2.2 kg)
84/88/124/128 Series	14.4 lbs (6.5 kg)
816/1212/168/1616 Series	19.4 lbs (8.8 kg)
Shipping weight	
CrossPoint 300 42 HVA	8 lbs (4 kg)
84/88/124/128 Series	21 lbs (10 kg)
816/1212/168/1616 Series	26 lbs (12 kg)
DIM weight (International)	
CrossPoint 300 42 HVA	9 lbs (5 kg)
84/88/124/128 Series	25 lbs (12 kg)
816/1212/168/1616 Series	34 lbs (15.5 kg)
Vibration	ISTA 1A in carton (International Safe Transit Association)
Listings	UL, CUL
Compliances	CE, FCC Class A, VCCI, AS/NZS, ICES
MTBF	30,000 hours
Warranty	3 years parts and labor

NOTE: All nominal levels are at ±10%. Specifications are subject to change without notice.